

An Agent-based Framework for Supporting e-Health

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The increasing level of mobility of patients across the European countries obliges governments to offer health services more and more flexible but at the same time uniform. If globally seen, patients could saturate the national health care services effort and increase related costs. The idea of the research project is to prospect the possibility of building an intelligent ICT (Information & Communication Technology) platform by which granting home care personal services close to the patient needs. The platform should: integrate information of different types and from different sources, be integrated with ICT whilst ensuring private and customized data access; use ontologies to define the profile of subjects and objects, have a mechanism to combine and refine the ontologies to personalize the system, incorporate knowledge from the different clinical sources, configure a knowledge-based decision support system that can supply e-Services to all subjects involved in the Home Care Model, extract evidence from real patients and integrate it with published evidence derived from real care treatments. The objective of the research project is to analyse how the agent-based technologies can supply the necessary intelligent effort to provide human-oriented services.

Objectives

Next to general objectives that directly come from the business context, such as generate a new ICT Sanitary Model, propose a knowledge-based platform for care services and integrate knowledge about HCPs (Home Care Patients) assistance, there are consistent and scientifically relevant goals to be achieved, such as: integrating different data sources, integrating information coming different EU members countries, defining ontologies for representing the necessary knowledge contained in all actors of the context, defining ontologies for representing pathologies, defining formal intervention plan, personalizing the access to the platform, personalizing the assistance by intelligent approaches.

Agents technology

The objective of project is to investigate how community care can be developed in the Internet age through the use of multi-agent technology. The motivation for this comes from the consideration of the agent society's social abilities in:

- Promoting effective care systems (provide better services and resources to clients, enhance social interaction between them, and with their carers, deliver more effective care)
- Providing the high-abstraction level care management strategies by linking all relevant agencies into a single framework of accountability;
- Giving an in-depth understanding of the health information framework that underpins the delivery of high quality, effective community care, including the formularisation of the links between the disparate agencies involved;
- Establishing a single agent-based care monitoring facility that can be used by all care professionals to assist in effective monitoring and diagnosis;
- Developing cooperative structures within the community structures to change service provision and care policies through the use of automated agents involvement in planning, scheduling, organizing;
- Devolving care management and responsibility and client centred environment that adapts rapidly to changing needs.